FAA AVIATION NEWS

NOVEMBER 1974

COVER:
Planned emergencies. See page 3.

FAA AVIATION NEWS

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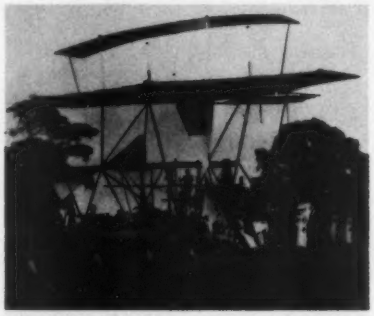

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The Edge of Perfection

How to keep your little-used emergency procedure skills razor sharp

You are a careful, experienced pilot. You have a well-worn flying ticket in your pocket, instrument rating and commercial certificate, and you log over 100 hours a year in your airplane on business trips alone. You don't tool around in it as much as you used to, when you had more free time, but you certainly feel current and competent as ever.

But have you really retained that "edge of perfection" that separates the casual pilot from the expert? Could you, in a pinch, hold a steep turn within 100 feet of altitude and roll out without hesitation to within 10 degrees of your pre-selected number? Could you, in an emergency, get everything out of the airplane it has to give?

If all of your current flying is strictly routine, the chances are you are rustier than you think. Flying skills do not remain razor sharp by being filed away in the memory bank; they must be honed by occasional practice. Granted, you are a busy man (or woman), and you justify the use of an airplane because it *saves* time, but how much additional time would it take to schedule a few practice maneuvers into your next business trip? Five or ten minutes? Fifteen at most? Not a bad investment in safe flight insurance.

Take crosswind landings, for example. Sure, it may not be much fun to spend a Sunday afternoon practicing them, when you could be flying off to some enchanting woodland or island, but how about building a practice schedule into a routine flight? If you are flying from or into a controlled airport at a non-peak traffic hour, you can always request (and usually be granted) the use of a runway with a crosswind blowing over it. You can also use the offwind runway at a non-controlled airport, if you take proper precautions with regard to the activities of other aircraft, and to the attitude of the airport management.

The consequences may be a little embarrassing to you, if you have company in the cockpit and you wobble a bit on the first attempt, but a little humility at the right time might spare you from a wrecked airplane on another occasion. In an emergency situation, when you might have no alternative to setting the airplane down or departing in unfavorable wind conditions, your ability to do so safely might well depend on how recently you have dealt with crosswinds on the runway.

Likewise short field techniques. Just because you fly regularly into airports with mile-long or better runways is no reason to believe that you may *never* have to cope with minimum or marginal runways. Unexpectedly high density altitude at a vacation resort, for example, may create conditions for you requiring a short field takeoff. And of course the always possible inflight emergency could force you to land on a short and/or soggy field. Would you remember the importance of keeping the weight off the nose wheel as long as possible on the soggy field? Would you remember, or be able to locate quickly, the recommended approach speed, or the best glide speed?

(Continued page 4)

And how close to the numbers could you hold it?

The only way to find out is to try. With an airport map in hand, you can determine the point on the runway that would mark an imaginary boundary or tree row, and line it up with the tower or some other airport building. Make your short field takeoff and see just how high off the ground you are at the critical point. Would you really have cleared those trees—especially if you had a planeload of passengers? Most pilots who try this are startled at the discrepancy between the performance characteristic figures listed in the owner's manual and the actual performance they get out of the airplane. *What is the problem? Pilot technique? A weak engine?* Better find out.

Incidentally, knowing the precise takeoff performance you can expect from your airplane—with you at the wheel—may enable you to ask, with greater confidence and safety, for intersection takeoffs at large, busy airports, The time you save not having to wait in long, gaseous line-ups could more than compensate for the relatively few minutes spent in planning and practicing techniques.

To see how this works out, we recently checked some points in the proficiency of Ken Giordan, an experienced, careful Washington-based pilot who currently flies about 10 "working" hours a month, mostly in a Beechcraft *Bonanza* V-35B. We scheduled a routine "business" flight from Martinsburg, West Va., and return, on a VFR day.

The tower at Martinsburg had no objection to our making a short field takeoff from the runway in use. The owner's manual states that the V-35TC, under standard conditions at maximum gross, can be ready to fly after a takeoff roll of 900 feet, using 20 degrees of flaps and a minimum speed of 77 mph, with prop at full increase and 32.5 inches of manifold pressure. Ken gave it his best, and I marked the liftoff point: it was 1,300 feet down the runway. After several more practice runs this was reduced to approximately 1,000 feet. *But 900 feet—?* No way. We re-checked the numbers in the book. I doubt whether anyone could have done any better with that airplane at that time and place. Good thing we didn't need that extra 100 feet.

Next, we decided to see how good Ken was at minimum controllable airspeed flying. This *Bonanza* is rated to stall at 52 mph with 20 degrees of flaps at the weight configuration we had, so he tried holding it level at 2,500 feet at 62 mph. After a few minutes of trying he was able to steady both the altimeter and airspeed needles at the desired mark. Then we tried a few shallow-bank, 90 degree turns at this airspeed.

On his first effort Ken rolled out a degree or two off the heading, but after several more tries he was able to hit it right on the nose, with no loss of altitude. *So what?* So—if you ever had to nurse a sick airplane down toward a small, hard-to-see, isolated landing strip in rough country, you would know how important it is to be able to maneuver at slow speeds with a minimum loss of altitude. Then it could spell the difference between a safe landing and a bad crash.

Keeping a cautious eye out for other traffic, Ken calculates, with the aid of an airport chart, the 1,000 foot point on the runway—his goal for a practice short-field landing.

Next, we decided to simulate a forced landing en route, assuming a power failure at our cruise altitude of 3,500 feet and an imaginary landing area 800 feet below. Ken's normal landing approach with the *Bonanza* calls for extending gear and partial flaps on the downwind leg, with airspeed at 120 mph, reduced to 100 mph on base and 90 with full flaps on final. But without power all those numbers go out the window and the key figure is the best glide speed (122 mph), which is immediately established and held all the way around. Gear and flaps, which steepen the angle of descent are not extended until the landing on cleared ground is assured. Without power, extending them at the normal time could result in landing short—which could be painful.

Ken managed to keep the airspeed variation within 5 mph and the heading variation less than 5 degrees, arriving over our imaginary threshold (a silo on the ground) about 60 feet below his intended altitude (but still well "above ground"). He also remembered to drop his gear in time, and extend flaps. On his second effort, he came over the fence within 20 feet of his intended altitude.

If all this sounds easy, see how well you can do—with someone in the righthand seat keeping score. When you have to break your normal habits of landing, which have been reinforced by hundreds of repetitions, you can become surprisingly forgetful or uncertain on the controls. In an emergency you may not have the time to figure out what has to be done, and what should not be done. You want to have a practiced procedure to pull out of your memory bank. An exercise like this carried out every month or two will give you that capability, for a small investment in time.

We moved upstairs a bit and turned Ken loose on steep turns. On the 45 degree bank turn, his altitude varied as much as 60 feet and he missed the rollout number by 7 degrees—still well within the tolerance suggested by FAA for the Commercial Pilot Certificate flight test. On his second try he was almost perfect, altitude varying less than 20 feet and rolling out on the button.

What does that prove? That if Ken ever finds himself in a spot where he has to reverse direction abruptly he can do so and still keep the airplane in control. He does not plan on flying into any box canyons, but something like that can happen without being planned. (In point of fact, a pilot flying this same airplane a few days later

experienced an inflight fire shortly after takeoff but was able to land safely after executing a steep turn at low altitude.)

For his final exercise. Ken elected to simulate a short field landing at Richmond. The book called for a final approach speed of 81 mph, with full flaps. We calculated that the intersection near the tower would represent the limit of a 1,000 foot landing strip.

With one brief fluctuation to 90 mph (to accommodate a buzzard that appeared on final), Ken held the airspeed within 3 mph of the desired 81, corrected properly for a right crosswind component of 5 knots and made a normal landing. He could have turned off at the intersection with some heavy brake work, but that would have meant putting an unnecessary strain on the airplane—and perhaps blown a tire. Putting down within the minimum runway distance demands a very steady adherence to the recommended approach speed, and an accurate pattern execution that allows you to touch down right on the threshold. In practice, of course, you can mentally displace that threshold to any suitable point on the runway and fly your approach with that point in mind. Landing regularly on mile-long or two-mile long runways with a light plane can induce a pilot to become sloppy on his approach and landing techniques—which means that in an emergency situation, when the available field is barely adequate, he might overshoot, or crash land unnecessarily short, out of fear of overshooting. Landing techniques are habits, which should never be allowed to become sloppy. Always aim for a given touchdown point, and always know how far your airplane should roll. If it doesn't work out that way, find out what is wrong.

If a veteran, 1,000 hour pilot like Ken Giordan needs practice to bring his flying techniques to an edge of perfection, how about you?

To find out, all it takes is a few extra minutes for planning and execution on your next routine flight—plus the presence on board of a co-pilot or air-minded companion who will check the numbers while you fly the airplane. *It is not something you want to do alone.* In the first place, you may get so preoccupied with watching the instruments and making notes that you could miss noticing some of the traffic or obstacles around you. And in the second place, you want to be absolutely honest about the results—no hedging. So let someone else record them—preferably not your boss, if you think he might get the impression you are less than the perfect aviator. Ditto for your wife, if you think it might be difficult to live with her without your halo. Other points to remember:

☐ Do not practice in marginal weather conditions.

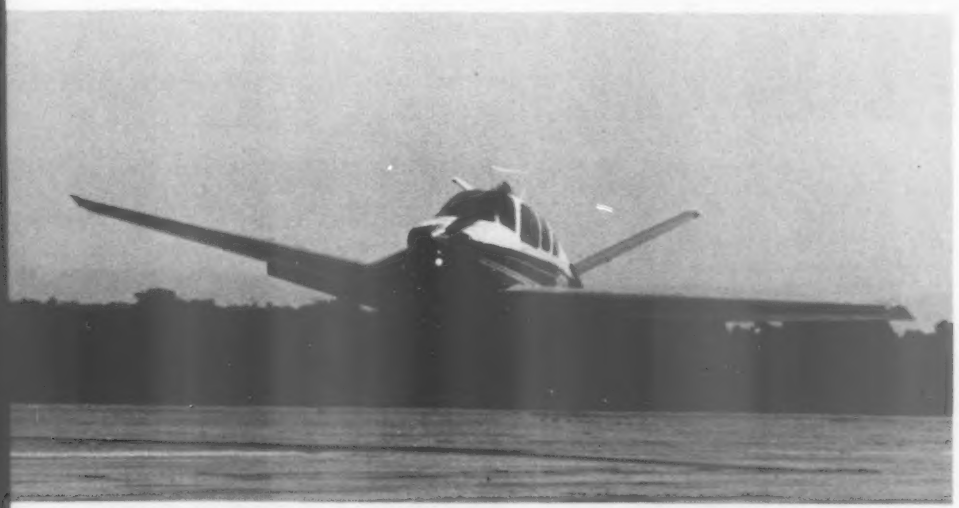
☐ Make certain the other traffic in the area knows what your intentions are.

☐ Execute all maneuvers at a safe altitude.

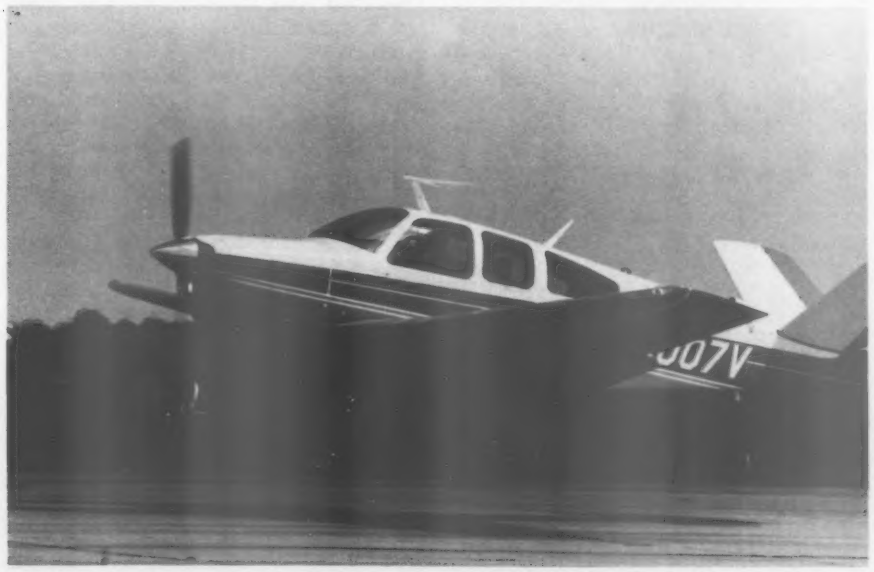
☐ Clear the air carefully on all sides, before entering into any practice maneuver.

☐ Keep all the useful "numbers" handy where you can check them—never guess at such figures as crosswind component limitations, landing roll distance, best angle-of-climb, etc.

Keep your edge sharp. You never know when it might save a life.



By choosing an off hour, and enlisting the aid of the controllers, the nearest controlled airport could be the safest place to practice crosswind or spot landings.



INFLIGHT QUIZ

An inflight emergency seldom gives you time to think out the answer to your problem: your responses should be automatic, and conditioned by repeated reinforcement. If you have available step by step procedures for dealing with serious mechanical failures you can ask your flight companion, at an appropriate point during the flight, to quiz you on such emergencies as:

- Dealing with a rough-running engine.
- Re-starting an engine that stops dead.
- Replacing fuses.
- Complete electrical failure.
- Loss of directional gyro.
- Power failure on takeoff.
- Radio failure.
- Oil pressure drop and/or oil temperature rise.

You may be surprised at how much you have forgotten. Get it back now.

Island Hopping II

Aerial navigation in the Caribbean is not difficult, but it can be frustrating to the uninitiated.

Finding your island in the sun off the Florida coast from a private airplane is not always a simple matter. Experienced island hoppers sometimes use the color of the water to tell them when they are near land: dark blue turns to light blue or green or yellow near the shore. Sometimes underwater reefs form recognizable landmarks (northeast of Nassau this is especially true). Novice overwater flyers can be fooled by cloud shadows on the sea which, from a distance, look deceptively like islands. Radio navigation is fine where it is available, but often it is not.

Before setting out for a distant island, you should know what radio aids are available and whether you can use them. More of the island strips have a non-directional radio beacon (NDB) than VOR, which is fine if you have ADF and remember to switch it on—as one young VOR-oriented pilot recently forgot to do.

During a Freeport vacation he and his family had planned a one-day excursion to another island, Spanish Cay, and although visibility was somewhat restricted on the appointed day he decided to go anyway. It was only 70 miles, and he could navigate part way by the Freeport VOR. It all sounded easy—but it did not work out that way.

Part of the problem was the weather. Clouds forced him to fly at a low altitude, and this caused the signal "FROM" the Freeport VOR to become unreliable about 15 minutes out when he was less than halfway to the cay. A strong quartering headwind not only slowed him down, but also blew him to the left of course. Although he spotted dozens of assorted but unrecognizable cays, his ETA came and went with no sign of his destination island. He continued on for a while, then began to fly around in circles searching for the island that was now well off to the south. Finally, in deference to a diminishing fuel supply—and to his wife's frightened *Please!*—he headed back toward Freeport. When he eventually picked up the Freeport VOR, he was surprised to find that although he had gone out on the 60 degree radial his heading back was nearer to 210 degrees (30 degree radial). He landed with near-empty fuel tanks and a near-hysterical family. He learned later that his intended destination had a low frequency NDB, and the rented aircraft he was using had an ADF, but since he had never used this equipment he did not even think to try. The NDBs are usable from 15 to 25 miles out, at virtually all altitudes.

Incidentally, it is vital when flying in the Caribbean and the Bahamas that you make positive identification of any frequencies you use for navigation. Cases are reported where far distant signals leapfrog freakishly across great quantities of ocean in that area. If you think you have a nearby station tuned in, but receive a distant one on the same frequency, you could end up homing toward a station 800 miles away. (Some persons think this might account for the ships and planes that have been lost in the so-called "Devil's Triangle" or "Bermuda Triangle".) To be sure, and safe, confirm the voice, or coded, identification.

Traffic at island airports can be deceptive. FAA's "International NOTAMS" advise pilots operating to and from uncontrolled Bahamas airstrips to use caution, as traffic conditions may differ from their accustomed practice. NOTAMS recommend flying over uncontrolled airstrips at 1,000′ to observe other traffic, then executing a left traffic pattern. They also suggest you announce your position on the UNICOM frequency 122.8 (even if there is no UNICOM there) before turning final and again before taxiing out for takeoff—always watching, and listening, for other traffic.

The see and avoid concept is just as important for the relatively few controlled airports in the islands. Most towers do not have radar, and it is sometimes almost impossible for the tower controller to see approaching aircraft against the ocean and to judge their location relative to other planes. In practice this may result in pilots sequencing themselves for landing, and providing their own separation from each other. Although air traffic procedures, *in general*, are standardized internationally,

the specific manner in which these procedures are carried out may not always be identical to those you find in the United States. In a new and foreign environment, proceed with caution.

When you are island flying, an emergency landing often means a landing at sea. The technique of putting a land plane down on the water is one that you should at least be familiar with in theory (see FAA AVIATION NEWS for August 1971 and 1972, also October 1972) if not in practice. It is also a good idea for you, in your capacity as cabin attendant as well as pilot in command, to carry out a little drill or demonstration for the benefit of your passengers before you take off for the islands. Let them know, as the air carriers do, without frightening them, that a ditching at sea is a possibility, and give them clear, simple directions for withstanding the impact, getting out of the downed aircraft, and surviving in the water. If the emergency should occur, you are going to be so busy flying the airplane and calling for help that you will not have time to spare to calm the passengers or prepare them for the critical seconds ahead—and panic in the cabin could easily result in a botched ditching and needless loss of life at sea.

Incidentally, you should ask your passengers frankly if any of them have medical problems you ought to know about or, that could become important in an emergency. If you know in advance what you can expect of people, you have a better chance of helping them to survive. A sad case in point occurred last April, when a Piper 140, after departing from Puerto Rico with three persons on board, was forced down in the water off the Dominican Republic with engine failure.

A successful ditching was accomplished in fairly calm water only about a mile off shore, in broad daylight. Although the airplane did invert, all three occupants emerged with life jackets. Their problems began when the pilot discovered that one of his passengers had a heart condition, for which he carried nitroglycerine medication on his person. The medicine was lost during the evacuation. As they attempted to swim toward the shore, against the opposing current, pain very soon incapacitated the ailing passenger. The others towed him as best they could, but they made little progress and were still in the water when darkness descended.

In a nightmare that lasted 24 hours, the pilot and the one healthy passenger were eventually rescued, but the third man perished at sea. Had the pilot known of his problem ahead of time, he might have taken the precaution of having a life raft accessible for ditching, which would have greatly improved the chances of all three surviving.

If you carry a raft, it should be accessible from within the cabin, if possible, and carefully maintained and stowed. Passengers (especially children) should be warned against tampering with it or doing anything that could lead to premature inflation inside the cabin, which could have serious consequences. A bizarre incident of this kind was reported by a *Bonanza* pilot who probably owed his life to the fact that he had oxygen on board and was flying over the ocean at 14,500 feet as a safety precaution against engine failure.

The tranquility of the Bahamas could lull you into thinking there is little air traffic around: Not so: events such as the "Flying Treasure Hunt" attract hundreds of airplanes.

He had no problems with the airplane, but as he and his wife sat relaxed in their seats enjoying the aspect of the islands ahead, they became aware of some movement in the back seat. The only "occupant" of the seat was a life raft, placed there for ease of access. Someone apparently had mishandled the raft before takeoff, because it had begun the process of self-inflation and was now pushing against the front seats. At first it seemed amusing, watching the "thing" grow, but then humor faded as the couple found themselves being pressed forward in their seats against the control column, and the plane's nose began to descend, despite the pilot's frantic effort to resist the growing monster behind him.

A desperation measure, jamming the clipboard between the panel and the wheel, bought them precious time, enabling the pilot to grope for the survival kit he kept on the floor behind his seat. With much difficulty he found it, retrieved his hunting knife and with a breath of relief that matched the *whoosh* of air escaping from the raft, he "stabbed the thing to death!" What would have happened had he not been able to reach the knife, or if he had been flying lower, can only be imagined.

An important focal point for all pilots heading for the islands off the coast of Florida is FAA's International Flight Service Station in Miami. Located adjacent to the control tower at New Tamiami Airport, the station is open 24 hours a day every day, and is expertly manned and stocked with information to assist you in flight planning for this area. The FSS can provide you with the current frequencies for airports and NAVAIDS, in the Bahamas and with all of the regulations you should be aware of when flying into this area, including Customs information. The Miami FSS periodically publishes a "Letter for Airmen" which contains all of this data. To get your name on the mailing list write to DOT/FAA, Miami IFSS, 14715 S. W. 128th St., Miami, Fla. 33196.

Also useful is the "Bahamas Flight Planner," a brochure containing miscellaneous facts about touring the Bahamas by air and a map of the islands, which includes airports, radio facilities and accomodations, and lists the documents you will need to have in hand. For a free copy, write to the Bahamian Ministry of Tourism, 1310 Biscayne Blvd., Miami, Fla. 33137.

For pilots going out to islands further east or south—Haiti, Jamaica, Puerto Rico, etc.—FAA's "International Flight Manual" is a good reference source. Frequencies are not given, as they change too often, but everything else you will need to know before flying over foreign soil is there. The manual is available on subscription from the Superintendant of Documents, GPO, Washington D.C. 20402. The price is $6.00 plus $1.50 for postage abroad.

In general, the Bahamas and Caribbean islands do not require a visa or passport for United States citizens (avoid Cuba!) but do require flight plans. In most cases the flight plan rules differ from those in the United States, and VFR flight at night is prohibited. Study the manual carefully. Incidentally, the entire coastline of the United States is surrounded by a corridor known as ADIZ—Air Defense Identification Zone—which extends from the surface up to infinity. Before penetrating this zone you must file a flight plan. Otherwise you may be visited by military interceptors.

One of the great attractions in flying off to an island in the sea is the feeling that you are getting away from the extensive fabric of rules, regulations and laws that complicate life in modern society. Back to nature! There is nothing wrong with this attitude as long as you do not allow it to affect your flying. The airplane is a modern machine which does not lend itself to "going native." As a pilot in command, you cannot afford to fling off all inhibitions at the sight of a coconut palm, a soft white beach, or whatever. That tendency is responsible for too many accidents in island hopping. *The farther you are from civilization, the more important safety rules become, from the point of view of survival.*

In between flights you are on your own.

(Editor's note: The first half of this article, covering flight problems and aircraft maintenance in these islands, appeared in the September 1974 issue of FAA AVIATION NEWS.)

A Different Kettle of Fish

Peerless Pappy's pen takes flight again, this time to educate a country cousin on terminal airspace

Dear Pappy,

I hope you'll excuse the familiarity, but after reading your exchange of letters on "The Good Book" with "Hot Shot Henry" (FAA Aviation News, August 1974) I feel you must be an instructor very much like the old timer who first taught me flying a dozen years ago back in the wide open spaces of western Kansas, so I'm sending you my question, rather than the official folks at FAA. I quite flying when I came to the capital area because everything seemed too crowded and close together here, and I'm strictly VFR, but recently I bought into a flying club out at Montgomery Airport in Gaithersburg, and I've started to rear my aviator's helmet into the polluted skies hereabouts in a shiny new 150. I checked out in it Okay, but the first time I set out on a little sightseeing trip I got into trouble with the local FAA constabulary, which is why I'm writing you, because I've flown enough to know the regs, and I don't appreciate being nitpicked in the cockpit when I'm perfectly legal—especially with my ten-year-old boy alongside me.

We had taken off on a Sunday morning, a fine clear autumn day, and wandered up over the Potomac past Harper's Ferry and finally wound up over Williamstown, which looked kind of historic from the air, and so we slipped down to about 2,500 feet to look over the town. Of course there was a fair amount of Sunday traffic coming out of the airport, but I kept a careful lookout, monitored the tower frequency and didn't get in anyone's way. All of a sudden I heard my N number being called up on the radio. . .

". . . 3435 Alpha, this is Williamstown tower, do you read?"

"Williamstown tower, November 35 Alpha reads you loud and clear, what's the problem?"

"35 Alpha are you a red and white Cessna 150?"

"That's affirmative."

"Uh, 35 Alpha, did you observe a blue and white *Comanche* climbing out over you a few minutes ago?"

"Negative on that."

"35 Alpha, the *Comanche* reported passing directly over you. He says you were in close proximity."

"Did he? Well, tell him not to get upset, he didn't bother me any."

"35 Alpha, will you say your present position and altitude? Over."

"Yes, sir. We're at 2,500, just about over that cement plant down there."

"35 Alpha, do you intend to land at Williamstown Airport?"

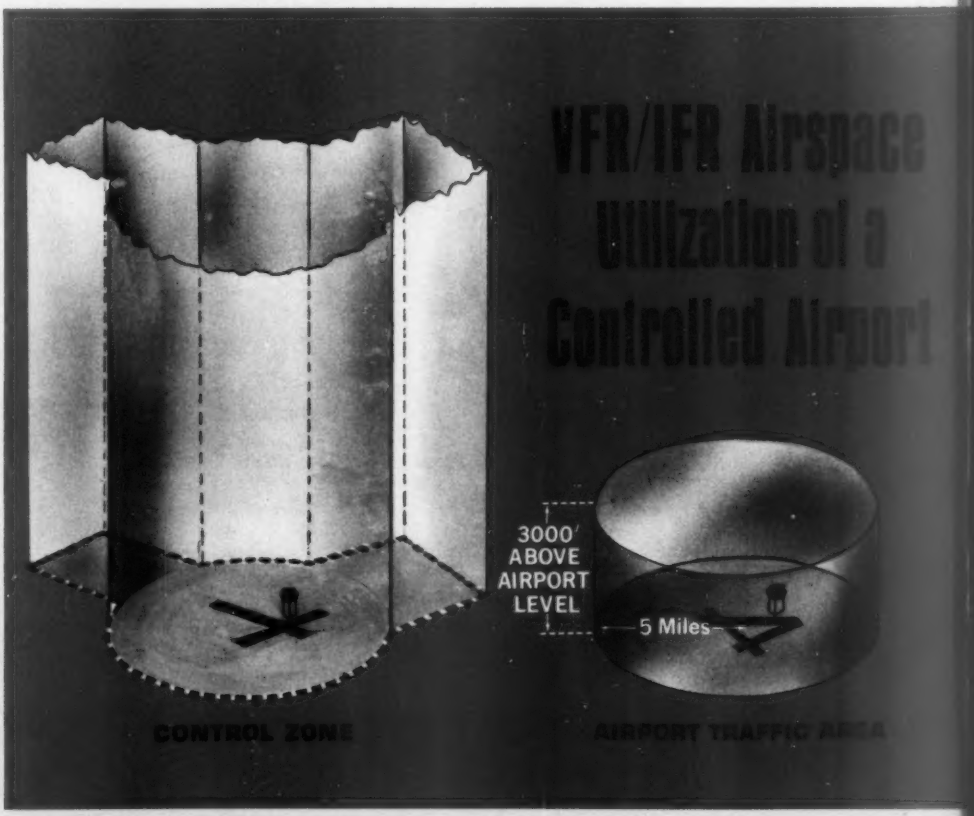
"We hadn't planned on it. Are the natives friendly?"

"35 Alpha, will you say your intentions?"

"Oh, we'll just go on looking around up here if you don't mind. We'll be heading back to Montgomery County pretty soon."

"35 Alpha, we have aircraft departing in your vicinity. Advise you climb above 3,500 feet." He threw in the altimeter setting and wind conditions, added a "Good day, sir," and plugged out.

Well, I knew I was inside his control zone, but on a clear day like that I had every right to be there without anyone's by your leave—unless the regulations have changed a heap in the past few years. I had a notion to call him back and argue the point, but I heard him getting pretty busy with his landing traffic so I let it go. Trouble was, by the time we'd got home for supper my boy had built up the story so that to hear him tell it I had strayed into a U.S. Air Force missile range, which didn't sit well with the Missus. I told her I was in the right, but she said there was no such



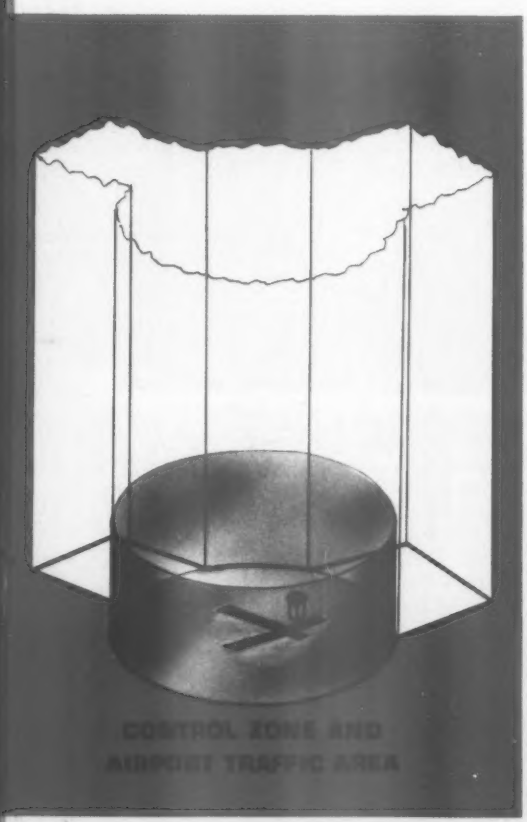
thing as the Government being in the wrong. Maybe you can settle it for us. I'm no hotshot pilot like your friend in the letter, but I've always tried to stay on the safe side of legal. Maybe I'm over my depth out here in controlled airspace.

Your country cousin,
Haystack Hilton

Dear Cousin,

If you were looking down the stacks of the cement plant at Williamstown from 2,500 feet, you were inside that controller's *airport traffic area* as well as his *control zone*, which is why he might have seemed hostile. In case you missed it during your layoff, they raised the ceiling of airport traffic areas from just under 2,000 feet to just under 3,000 feet about three and a half years ago. As you probably remember from your exam days, the *airport traffic area* doesn't show up on the sectional, but it's always the same shape and size, just a circle around the airport (where and when an FAA or military tower is operating). It has a five mile radius and looks like the large sized can of tuna. And you're not supposed to penetrate it in any kind of weather without having a word with the tower. Get it?

Your friendly aviation advisor,
Pappy



Dear Friendly Adviser,

Gotcha. You're right, I missed that reg change. Still it seems kind of unnecessary to me for them to have both an airport control zone *and* an airport traffic area, both about the same size and shape, around that little old airport. I think you've got more regulations than airspace left around here.

Much obliged for the info.

H.H.

Dear Haystack,

If you had tried to land at what you call "that little old airport" during a busy weekend hour, I think you'd have appreciated the way the tower uses that "tuna can." They get quite a mix of airplanes and airplane drivers, you know, good, bad and otherwise. The purpose of a traffic area is to move everything that flies, VFR, IFR, air carrier, choppers, gliders, blimps, what-have-you, in and out of the airport in some kind of orderly manner without bumping into each other or the real estate. You've still got plenty of airspace to fly around in there, but when you get close to a busy landing field and near the ground, with lots of traffic, someone has to get the ducks lined up, and he can't do that very well if some visiting flatlander ambles into his mixing bowl without a how-dee-do.

The airport *control zone* is a different kettle of fish, if you'll excuse the expression. It's always marked with segmented lines on the chart, and it has one specific purpose: to funnel IFR traffic down from the clouds into the airport and back out again. It doesn't have anything to do with you VFR fellas, except that you want to stay out of it when the weather at the airport is down to less than three miles visibility and a one thousand foot ceiling. Matter of fact, you VFR fellas haven't much call to be out flying around in that kind of weather, because the only uncontrolled airspace we've got around here is under 1,200 feet AGL, or under 700 feet in lots of places. Sure, if you've got one mile visibility and clear of clouds you can belly-crawl around under it, but what with all the towns and the hills and wires and stuff in your way you aren't going to find much room between the rock and the hard place.

Your fair weather friend,
Pappy

Dear Pappy,

I admit to doing my share of belly-crawling. I also spend a lot of my air time dog-legging it around control zones, and that's no fun either.

H.H.

Dear Haystack,

You remind me of a fella I knew once, that we had a name for something like yours. He had a thing about control zones —wouldn't go near them. Someone told him, back in his student days, that they were only for IFR pilots, and he got the notion something terrible would happen to him if he got caught in one. He'd go hundreds of miles out of his way to avoid them. I believe if his plane had caught fire, he'd have bailed out, without a parachute, rather than cross over that segmented line.

Now that's plain silly. You can fly around all day in a control zone as long as you've got your three mile visibility and one thousand foot ceiling. As a matter of fact, the airport inside the control zone can be solid IFR and they'll still let you fly through the zone (on top of the ceiling), as long as you've got three miles of visibility and can

(Continued page 10)

A Different Kettle of Fish *(Continued)*

stay at least 500 feet below, 1000 feet above, and 2,000 horizontal from any clouds (below 10,000 feet). Remember, if that engine stops ticking you want to be able to glide clear of the clouds to land or you could find yourself illegal and unsafe in a heck of a hurry.

Of course, you want to remember that most air carriers and a lot of biz jets file IFR in good weather as well as bad, and they have got some regular flight paths carved out for them, so you want to keep your eye peeled all the time and keep enough altitude to stay out of anyone's way. Myself, I have a rule that says I keep at least 2,000 feet from *any* clouds in a control zone, because if some jet comes rocketing out of it on a 2,000 feet per minute climbout, I want to have time to duck. When the weather gets down toward marginal, I call the man in the tower and let him know my intentions. Takes a little strain off both of us. Remember, if he's got radar, in most cases he'll see you on the scope but he won't have a clue how high you are unless you tell him.

Good flying,
Pappy

Dear Paternal Advisor,

I still don't dig these control zones. Seems to me they're pretty inflationary. Last weekend, for example, we were flying back from a trip down the Shenandoah Valley, and near Front Royal I homed in on the Baltimore VOR, which would take me straight back to Montgomery County Airport while keeping me north of the Dulles control zone, which as anyone can see, doesn't go beyond the Potomac River. As we passed near Leesburg we started picking up a lot of haze, so I dropped down low to keep it legal as we crossed the river. I wanted to be sure I could land at Montgomery, so I called Dulles approach control and asked if they knew of any heavy weather in the area. They said negative on that, although visibility was less than two miles, but then they got real interested in me, and I had to give them my position, altitude, airspeed and all the rest. "What gives?" I asked.

"YOU ARE IN A CONTROL ZONE IN IFR WEATHER WITHOUT A CLEARANCE," the man says. "Are you instrument rated and qualified?"

"Double negative," I told him. "You better adjust your scope. I can see Poolesville right below me, which is nowhere near being in your control zone."

That didn't seem to faze him. He gave me a heading for Montgomery County Airport, asked me to maintain altitude and airspeed until clear of the zone and threw in a Good Day to You, Sir.

What about him? Do they stretch out their control zones whenever the weather thickens? I *know* I was at least 15 miles from that tower.

Hot-Under-the-Collar Hilton

A beautiful sight for a powerless plane: two miles of uninhabited runway.

Dear H.H.

Before you make any more inflationary suppositions, take a look at the date on your sectional. Little bit out of date? Like you said, things keep changing, and control zone boundaries are no exception. That northern extension at Dulles, which used to go out only about eight miles, now goes out beyond Poolesville—about 16 miles from the tower, as a matter of fact. They made that change after they installed dual ILSs on the two north/south parallel runways—they need more room straight out to line the traffic up. Happens all the time at airports—when they get a new piece of navigation equipment, a new runway, new terminal, whatever, they're liable to change the configuration of the zone. You have to watch the NOTAMS, and as for outdated charts, they can be worse than no charts at all.

The trouble with you, my Flatlander friend, is that you are fighting the system instead of trying to live with it. Believe me, it can be done.

Join 'em, cousin, you can't beat 'em.

Pappy

Dear Voice of Prophecy,

I'm beginning to suspect you are a fink for the FAA. You ever stop to think what flying would be like if every airport control zone doubled its size every two years? You

want them to take away from us that little bit of relatively free sky we still have under Big Brother's enormous security blanket of controlled airspace?

I thought you were on our side.

Hilton

Dear Hilton,

I am, brother, I am. In fact, I feel so strongly about guys like you that I'd like to fly down there one weekend and show you how easy it still is to enjoy flying, strictly pleasure and VFR, in spite of all the rules and regs and what confronts you on the sectional. What do you say? If I can't convince you, I'll eat my Accident Prevention Counselor's badge, safety pin and all.

Pappy

Dear Pappy,

Hold your fire. I give up—I'm a believer now. Let me tell you how it happened.

On Veteran's Day, being at liberty from work, I loaded my good wife into the airplane and headed for our favorite valley, the Shenandoah, to see the fall colors, the likes of which I never saw in Kansas. After we took off I saw that the usual morning haze was still rolled in pretty tight against the mountain slopes west of Leesburg, so I climbed up to 6,500 before crossing that extended Dulles control zone. At that altitude the visibility was good in all directions and the ceiling unlimited, so I didn't bother with any pilot-to-controller amenities.

However, when we got just a couple miles east of Leesburg—zap! There went the engine. It just stopped cold, and there was no way I could relight it. By the time I established a proper glide and looked around for Godfrey Field (Leesburg), it was out of sight in the haze, which was getting thicker by the foot as we descended. I got on the horn to Dulles approach control and rattled off my predicament.

Low flying in non-controlled airspace can lead to problems with terrain.

"35 Alpha, this is Dulles Approach Control, are you transponder equipped?"

"Negative, man. We're just a skinny little Cessna 150 with a simple OMNI and a simple, scared pilot, this haze is thicker than you could believe, and I got a feeling some oversized jet is about to swallow us any minute. Get us out of here!"

"All right, 35 Alpha, just keep the airspeed up where it belongs and the wings level and, uh, be calm. No sweat. We'll have you on radar in a minute. Meanwhile I suggest you home in on the Armel VOR, that should bring you in pretty much lined up with Runway 19 Right. Stand by, 35 Alpha." He gave me the Armel frequency, and I tuned it in with a fumbling hand.

Stand by. I had a feeling he'd gone out for a coffee break. The seconds ticked away and we sank deeper and deeper into that soggy haze. In the silent cabin I could hear my wife breathing heavily, but I didn't look at her. I hoped she was not reading my mind. I kept imagining I saw four-engined jets materializing out of the shadows on all sides.

"35 Alpha, we have radar contact. You are cleared for a straight-in approach to Runway 19 Right. You should have it in view momentarily. We have one mile visibility on the runway, ceiling obscured." He gave me the altimeter setting and wind, which frankly went right by me, because at that moment I saw the ground. Wow!

About a hundred yards ahead of me was the longest, barest, most beautiful piece of runway I'd ever seen in my life. I lowered flaps and set her down nice and easy, and a few minutes later we were shaking hands with some of the boys in a crash/rescue truck that was parked handily on the grass. Later, after I had arranged to have the plane towed over to the general aviation hangar, we went up into the tower to thank the crew there for bringing us in.

To hear them tell it, it was no sweat from the beginning. Since they knew all the other traffic in the control zone at low altitude, they had no trouble identifying 35 Alpha on radar and vectoring the other traffic away. They had also cleared traffic out of the airport traffic area, just in case I wandered off course coming down in all that soup, so I had the whole airspace to myself. The operation involved contacting and altering the course or plans of some 50 aircraft—all of whom were now back in business.

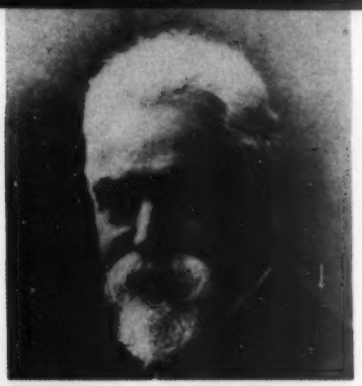
Well, Pappy, I learned my lesson, I don't think of a control zone as enemy territory any more, and I don't think an airport traffic area is such a bad idea either. I'm not too crazy about VFR on top either, just now, so maybe next time I'll wait until the haze clears before I cross a control zone. I've often wondered what would have happened that day if I'd lost my radio, too.

Come see us anyway.

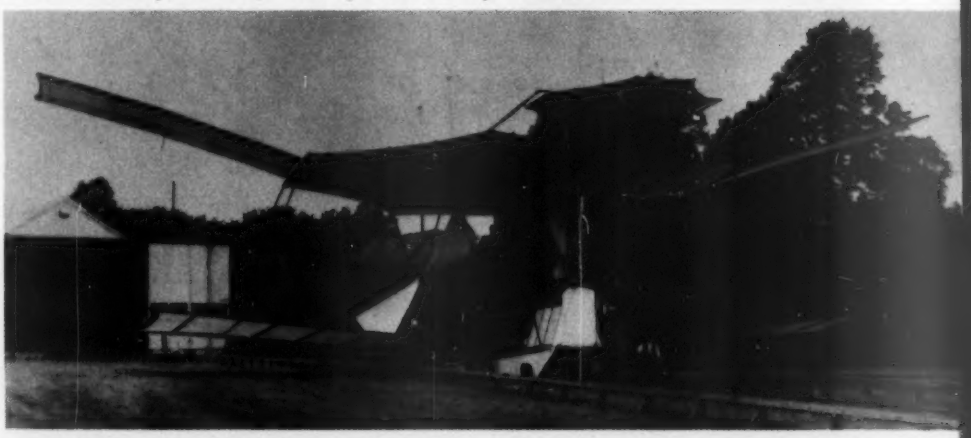
Hilton

Famous
Flights

Machine-Gun MAXIM



The Maine-born genius whose gigantic 19th century aircraft was powered by steam



The 105-foot wingspan of Maxim's hugh craft dwarfs crew members readying the "aerial steamship," with its twin 18-foot steam-driven pusher props, for a trial run on tracks.

"Give me an engine that will develop the power of a man and will not weigh more than a barn-yard fowl, and we will very soon give you a flying machine."

Such engines are commonplace today, but in the latter half of the 19th century, when aviation pioneers were hot on the trail of a workable airplane, with a lightweight engine, one rugged individualist turned the problem upside down and said, "Since steam is our greatest source of power, I will build an aeroplane strong enough to support a steam engine." And in 1894 he launched the first manned aircraft ever to take off under its own power. This self-taught genius, who almost outdid Thomas Edison as well as the Wright brothers as an inventor, earned an important niche in history—not, ironically, in aviation but on the field of battle: he was Sir Hiram Maxim.

Hiram Stevens Maxim was born in the central Maine town of Sangerville on February 5, 1840. Scantily educated in the local country school, he entertained ideas of becoming a sea captain, but was early apprenticed to a carriage maker. Later Hiram worked in a machine shop, and at age 24 he became a draftsman for an iron works in New York. Practical training in mechanics, coupled to an imaginative mind, led him to form his own manufacturing company and produce all manner of household gadgets and industrial devices, from a mousetrap to an automatic sprinkler system. He also carried out important pioneering work in the field of electric lighting, and was on the verge of producing a practical incandescent light bulb in 1879 when Thomas Edison patented his famous "light in a vacuum." Lost from public sight in the shadow of Edison and others, Maxim was nevertheless widely respected abroad, and was awarded the French Legion of Honor as a result of his contributions to the Electrical Exhibition in Paris in 1881.

A few years later, a chance interest in the automation of guns led him to invent a weapon which has become synonymous with his name: the first efficient machine gun. The *Maxim* gun, using recoil force to eject the cartridge cases and reload, fired over 600 rounds a minute—a fantastic firepower at that time. However, the War Department of a peaceful United States showed little interest in the gun, which a resentful Maxim promptly sold to the British War Office. The Maxim machine gun was so successful in helping the British maintain their widespread empire that Hiram Maxim was eventually knighted by Queen Victoria after he had taken up official residence in England.

Maxim's new-found eminence, plus the profits from his gun factory, enabled him to pursue an interest of long standing: aeronautics. He had been collecting data on lift, thrust, and other aircraft characteristics for over a decade, and in 1891 he constructed a large-scale apparatus for securing his own data. This consisted of a horizontal arm nearly 32 feet in length, which rotated freely around a vertical axis, describing a 200 foot circle. At the outboard end of the arm he positioned an "airplane" with a four-bladed propeller and a 13 foot wing. A steam engine drove the "airplane" around the circle at speeds up to 3,500 feet per minute.

A spiral spring behind the propeller, linked to measuring instruments, enabled Maxim to record the "push" or thrust at any point. Other instruments measured velocity, rpm, etc. The angle of attack of the wing was adjusted until the inventor determined the optimum angle for lift and velocity. His experiments with this "obverse wind tunnel" enabled him to raise funds for and commence designing and building a flyable, man-carrying aircraft.

The problem which stymied powered aircraft designers of his day—obtaining an engine light enough to be borne aloft—never troubled him. It was in his nature to think big, and the aircraft that came off his drawing boards was a gigantic multi-winged affair with a maximum wingspan of 105 feet and a gross weight of 8,000 lbs. (The first successful Wright aircraft in 1903 was to weigh 605 lbs.) Distrustful of the reliability of internal combustion engines, Maxim relied characteristically on steam. Propulsion would come from 18 foot twin propellers driven by two steam engines producing a combined thrust of 2,000 lbs.

The drive shaft was located on an upper deck ten feet above the main deck, which housed the boiler, fuel and water, stores and crew (three men, no less!) Forward and aft of the main wing were two steering planes wired to drums on deck. Steering was also possible by separate control of the two engines. An elaborate rigging system for the wings utilized hollow steel shafts as well as wire, wood and canvas.

Maxim had designed every last detail himself, and was confident that his power plant was the most efficient ever developed, and more than adequate to lift his enormous craft. The burner itself had over 7,600 separate small flames, sufficient to raise the boiler pressure from 100 lbs. to 200 lbs. in 60 seconds. Sir Hiram calculated he would develop a total lift force of 10,000 pounds, at 40 mph with wings at a 7.25° pitch.

The aircraft was completed in the spring of 1894, and a special track was constructed for controlled test flights. Mindful of the investment and the time and work involved in his creation, Maxim wanted to check the actual lifting performance against his base data before turning it loose in the sky. This seemingly ingenious precaution may have cost him the honor of being the first man

to accomplish a *sustained* powered flight.

The final experiment with the huge aircraft was made on July 31, 1894, on a runway consisting of steel railway track 19 feet apart. The aerial "steamship" was provided with light steel main wheels, plus smaller "outrigger" wheels designed to engage an upper (inverted) track and thus prevent the airplane from rising more than two feet above the ground. The rims of the outrigger wheels were painted red in order to give a clear indication of the point at which they engaged—i.e., the takeoff run.

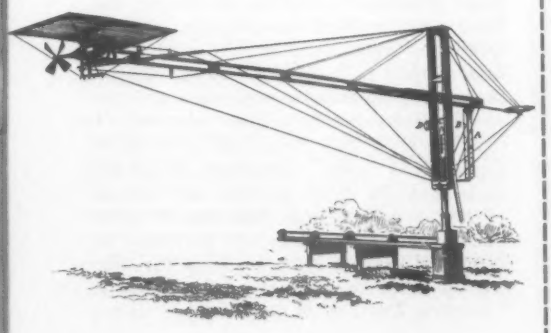
To assure the success of the test, Maxim had the engines fired up to almost full capacity. When he gave the order to go, the dynometer showed a screw thrust over 2,000 lbs. The huge props started the machine so quickly that it threw the crew off their feet. After a ground roll of some 200 feet, the small outrigger wheels were seen to be fully engaged, indicating a lifting power of at least 8,000 lbs. In fact, the lifting force was so great that the right wheel broke apart the wooden restraining track, allowing the aircraft to tilt, slip off the track and come to a sudden crashing halt.

The test flight vindicated virtually all of Maxim's designs and calculations, but it also terminated the project. Despite the fact that an airplane which could lift itself and a human crew off the ground had been publicly demonstrated for the first time in history, no one wanted to subscribe the considerable funds required for salvaging and rebuilding. The crash, with its pile of twisted steel, crumpled canvas and wheezing steam, was more eloquent than the red paint marks on the rail. The first steam-driven aircraft was dead.

Maxim himself may have had second thoughts on the subject. He considered himself a man of peace, despite the worldwide identity of his name with a weapon of war, and he suspected that the airplane might one day serve to rain destruction on the earth from the sky.

One year after he died, in 1915, the first strategic bombing missions were carried out by French aircraft over Germany.

In 1891 Maxim contrived this apparatus for testing the efficiency of the screw propeller and the lifting power of his airplane design.



Pilot BRIEFS

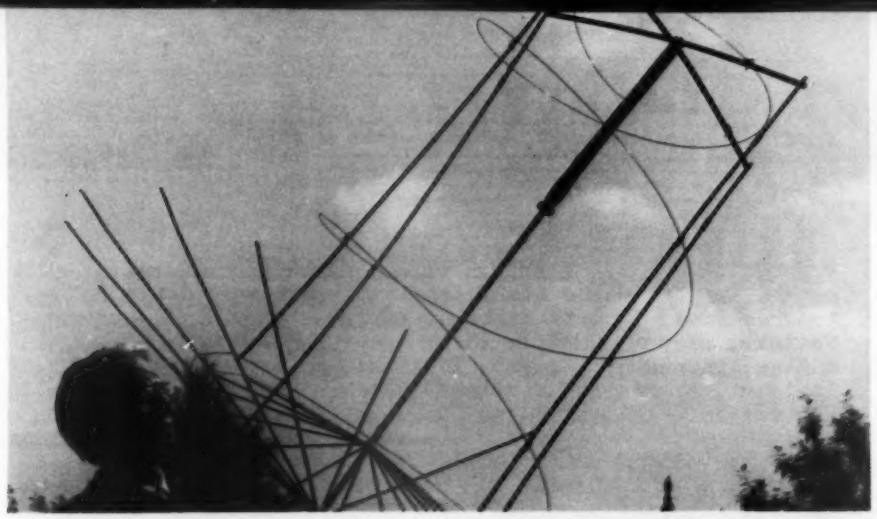
■ PROPS THAT FAIL. Although modern metal propellers are generally considered highly efficient and relatively maintenance-free, reports continue to come in of inflight prop failure, many of which occur at a place where previous damage apparently existed. To guard against this type of incident, pilots and airplane operators are urged to make the careful examination of the propeller a regular part of every preflight inspection; to refer any suspicious nicks, scratches, dents or cracks to a mechanic for analysis, corrective action if necessary; and to be positive that all prop repairs meet the manufacturer's recommendation and/or pertinent regulations. Clean your propeller blades often (it is impossible to properly inspect a dirty prop) using a non-oil base solvent--never use an alkaline cleaner. CAUTION: Exceeding recommended RPM limits puts added strain on the propeller.

■ NOT SO CLEAR. What is worse than an airplane that will not start? An airplane that starts when you neither expect it to nor want it to. Occasionally a propeller will start to spin as soon as the master switch is turned on. (The cause is usually a sticking starter solenoid.) Although it happens very seldom, you can be on the safe side by always checking to see that the propeller area is clear, and the brakes set, before reaching for the master switch.

■ DEADLY DRAFTS. Mechanics are urged to exert caution in the use of compressed air around the shop. Holding freshly washed machine parts under the air hose to dry can increase the danger of infection if there are cuts or sores on the hands. In addition, eye and ear injuries can result from using air to blow dirt or dust from hair or clothing.

■ EFFECTIVE USE OF GENERAL AVIATION AIRCRAFT during national emergency or disaster is the subject of an updated FAA Advisory Circular. The booklet provides guidance for the development of disaster airlift plans on state and regional levels and for coordination with other agencies. In some emergency situations small aircraft are seen as important for airlifting essential personnel and supplies; conducting search and rescue missions; aiding communications by courier flight and/or radio relay; visually spotting and appraising damage. These services could be of particular value if bridges or roads are damaged or if radioactive fallout is suspected near the surface. Free copies of AC 00-7A, "State and Regional Disaster Airlift (SARDA) Planning," are available from DOT Distribution Unit, TAD 443.1, Washington, D.C. 20590.

■ PILOT SCHOOL DIRECTORY. FAA has updated the list of flight and ground schools, certificated as of June 1974. Schools are listed by name, address, certificate number, and ratings and special courses authorized. Copies of AC 140-21, "List of Certificated Pilot Flight and Ground Schools," are available free from DOT Distribution Unit, TAD-443.1, Washington, D.C. 20590.



"Umbrella Antenna" Extends Range of Radio Signal

Simple inexpensive equipment may someday enable downed pilots to summon help from any point on earth when used in conjunction with communications satellites that are specially equipped with transponders. Roy E. Anderson, an electronic researcher, recently demonstrated how the antenna he improvised in his spare time from a golf umbrella frame could extend the normal five-mile range of a common walkie-talkie thousands of times.

During the demonstration a message transmitted in Washington, D.C., was beamed to a NASA satellite hovering over Brazil, then relayed to an observatory near Schenectady, N.Y., and acknowledged by voice back to Washington—a total distance of more than 50,000 miles.

General Aviation Flying Practices Reported in Survey

A recently published FAA study has brought to light previously unreported data on flying practices of those general aviation pilots who do not customarily file flight plans or utilize air traffic control services.

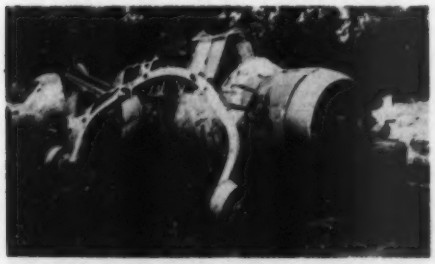
The survey, made for FAA by Civil Air Patrol during the summer of 1972, was based on interviews with 40,330 pilots at 213 airports in 38 states. Interview questions were designed to create a profile of general aviation flights, equipment and pilot habits, and to supplement statistics gathered through air traffic control records.

The "average" flight was found to be 236 miles long, with 2.5 persons on board, and more often than not was made without a flight plan. About 45 percent of the flights were for business, 35 percent for pleasure, and the rest were instructional, corporate, air taxi, aerial application, etc.

About 53 percent of the operations were "itinerant"—from one airport to another more than 20 miles distant. The remaining were local—mostly for training purposes.

Of those aircraft surveyed nearly all had VHF receivers and transmitters, more than 90 percent have VOR receivers, 70 percent have 4096-code transponders, some 23 percent have DME receivers and 46 percent have ADF receivers.

A limited number of free copies of the report "General Aviation Activity Survey 1972" are available by writing FAA, AMS-230, Washington, D.C. 20591.



UP FROM SCRAP. Before he was able to restore the above *Westland Lysander* to flying condition—and experimental certification by FAA—Dwight F. Brooks of Van Nuys had to write 350 letters, make 500 phone calls, travel 5,000 miles by air and 22,000 miles by car to gather information and parts. The plane, "AC-B," which was built during a year and a half of daily labor from the remains of two junked aircraft found in western Canada, is the only flyable survivor of the 2,000 STOL warplanes built in Canada before and during World War II. The *Lysander* gained fame in WW II for its clandestine night flights carrying agents and underground patriots into and out of occupied Europe. AC-B will be flown for exhibition.

Homebuilt Rule Deadline Extended

FAA has granted 60-day extension to the original November 6 deadline for comments on a proposal to establish new special certificate classifications for aircraft (including homebuilt) and to limit experimental certificates for the most part to aircraft actually engaged in experimental operations.

The extension was requested by the Experimental Aircraft Association to allow more time for dissemination of information on the proposal and for preparation of comments. New deadline for comments is January 9, 1975. For added details on the proposal see page 14 of September 1974 FAA AVIATION NEWS.

Pilots Support "Aviation Weather"

With the enthusiastic support of pilots and the general aviation community, more than three-fourths of the nation's 239 public television stations are now carrying the new fall series of "Aviation Weather" programs. The half-hour color presentation is produced weekly by Maryland Center for Public Broadcasting and offered to PBS outlets across the nation. In most locations it is shown on Friday evening prime time, allowing viewers to use the forecasts for weekend flight planning. In addition to national and local weather data the program includes safety and educational material, current announcements such as FAA actions, seasonal flight and maintenance reminders, and personal appearances by aviation personalities.

A $110,000 grant from AOPA Air Safety Foundations helps underwrite production costs, and the FAA provides the services of host/briefer George Merriken. Weather data and local briefings are furnished by National Weather Service. Check the local television listings for time and channel of "Aviation Weather" in your city.

• More on Logging

In your July "Flight Forum" you state that even though an instructor is on board to give dual instruction, a private pilot or better may still log the time as pilot-in-command time if he is he "sole manipulator of the controls. . . ." Carrying this proposition one step further, should not the private pilot log the time simultaneously as both dual *and* pilot-in-command time if he controls the aircraft and receives only verbal instruction from a licensed instructor?

Thank you for publishing such a quality work of continuing use to those who pilot.

Larry L. Thomasson
Austin, Tex.

The pilot may if he wishes. Pilots often find it useful to log flying time in more than one column—for instance, "night" time, or "multi-engine" time might coincide with "cross-country," "instrument," "dual," etc. When a private pilot is the sole manipulator of the controls of an aircraft for which he is rated, and there is an instructor on board giving him verbal instruction, the flight time could properly be logged as "pilot-in-command" (to apply against the minimum needed for commercial, etc.) and also, if instrument instruction is given, as "instrument flight instruction received" to apply against the minimum of that kind of time required for an instrument rating. Time logged in two or more columns of the private pilot's logbook may not, *of course, be counted more than once in the total flight time column.*

• Tragic Posters?

It seems to me that taxpayers' money could be spent in better places than on posters depicting tragic scenes of pilot error.

Greybull, Wyo.

Most general aviation airports, flying clubs and similar organizations seem to find our aviation safety posters very helpful in accident prevention, which is their purpose. It is not our intention to present a tragic scene, but one of wry humor with a specific caution. The artist, Robert Osborn, has a large following among pilots and does the posters for us at a nominal cost because of his interest in aviation safety.

• How Hazardous Is It?

I was alarmed by a newspaper story that claimed airline passenger planes carry hazardous materials in their cargo compartments. Assuming that this article is true, what can the individual do to protect himself against this danger?

Milton L. Brown
Mobile, Ala.

Items generally classed as "hazardous materials" have been hauled on passenger-carrying aircraft since 1946 and, to date, not a single passenger injury has been attributed to such carriage. When the limited amounts of hazardous materials allowed on airliners are properly packed, marked, labeled and stowed in accordance with Federal regulations they are not hazardous. FAA is, however, aware of the potential involved in the carriage of hazardous materials and has stepped up enforcement of proper procedures.

FAA has also proposed a rule that would require air carriers to monitor and inspect (including for radioactivity) each package of hazardous materials at the point of acceptance, loading and unloading.

A recent study showed that only two percent of all air carrier departures were carrying radioactive materials, and four percent, any kind of hazardous material. Another study concluded that the cosmic radiation exposure received as a result of flying at 30,000 to 40,000 feet is six times greater than could be received as a result of properly packaged radioactive cargo.

• Radar Reflector

In the Pilot Briefs column in August you mentioned a radar reflector for gliders and balloons. I would like to suggest that FAA review the already produced radar reflectors in use by sailing yachts while offshore in heavily trafficked shipping lanes. Although weight and wind resistance are of critical importance in soaring, balloons may easily adapt the yachting equipment. There are folding versions available.

Personally, I prefer a transponder. Inevitably one must face the fact that aviation is an expensive business. Cost cutting in safety areas should be approached with extreme caution. What percentage of the price of a high performance sailplane does a transponder really represent?

Joseph Valasek
Ford City, Pa.

• Disarming ELTs

In the September article, "ELT; An Interim Report," it is stated that "a pilot should make an ELT check part of his pre-flight work, switching it to the armed position just before takeoff. The ELT should be turned to the OFF position at the end of the flight." Is this correct? The A & P mechanic who installed mine before December 1973 told me to leave it in the AUTO (or "armed") position at all times except when turning it to ON for testing. Which is the correct procedure?

June Hanson
Edgewood, Md.

It depends on the type of ELT and where it is installed. Because of the increasing and disturbing problem of accidental ELT alarms—most of which occur on the ground—FAA is recommending that, whenever possible, portable type ELTs be installed in a readily accessible location, preferably within the cabin, and that they be turned off between flights. Note that FAR 91.52 (c) requires that, "Fixed and deployable automatic type transmitters must be attached to the airplane as far aft as practicable." Where such equipment is not accessible to the pilot, obviously the switch must be left in the "armed" position. However, a simple check by listening on 121.5 mHz before engine shutdown will tell if the ELT is transmitting.

FAA Aviation News welcomes comments from the aviation community. We will reserve this page for an exchange of views. No anonymous letters will be used, but names will be withheld on request.

• Pappy's Mail

I am one of the Walter Mittys that FAA seems to be trying to drive out of the air with regulations and requirements, but I was amused by "Pappy's" exchange of letters on the Airport Directory ("The Good Book, II" August 1974). I don't think you meant me in your article but by coincidence I too have a Champ—a Tri-Champ. I've had it for four years and have put over 400 hours on it.

I like to fly with a map in clear weather. I enjoy looking at the earth and the things on it. If sometimes I cover more terrain than a professional navigator would on a particular flight, why that's a bonus. It just means I have to pay more attention to the gas tanks during flight than a pilot who knows exactly where he's going and gets there in a bee line.

Remember the radio they made that fellow put in his Champ, or move out of the big city airport? Well, I still have that radio in my Champ. It works, too. I use it about four times a month to get a radio check at Trenton. Once last May during an unforecast (or incorrectly forecast) fog it got me down safely into North Philly. An hour later visibility there was zero!

Over Regulated
Pennsylvania

• What's in an AIM?

Dear Pappy:

Have just been reading your correspondence with my brother-in-arms, "Hotshot Henry," in the August AVIATION NEWS. I left the service when he did, but have been buying my own avgas for a somewhat longer period. And I have subscribed to AIM since 1968, trying to keep up with all them young whippersnappers in white shoes.

Pappy, in 30 years of some serious and a lot of casual flying I have been exposed to a lot of changes. Remember the old low-freq. beams? The coffee grinder radios? Round engines with hand lubed rocker arms? Well, things keep changing, and I try to change with them.

Howsomever, there is one thing I ain't never been able to do—not even enough to lie my way around it—and that is to find anything in the AIM by using the Table of Contents. The fellow that wrote that Table is a Master Confuser with an Oak Leaf Cluster. Must be brother to the guy who put a mixture control in an airplane I flew once—you pulled it out for full rich, and pushed it in for idle cut off! What about an index?

F. H. Wheeler
Salem, Wis.

Dear F. H.

An old timer like you shouldn't be hollering for some one to lead him by the hand. Sure, they could put in an index, but that is a big job that would cost a lot of money, and you know who would be the first guy to howl over a price increase—yes, yours truly. Believe me, you can learn to live with what we've got.

Pappy

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Before you spin the prop,

Make sure the plane will STOP.

Suggested by Edwin Brown
Airway Facilities Sector, Philadelphia, Pa.